

(12) **United States Patent**
Silva et al.

(10) **Patent No.:** **US 9,636,159 B1**
(45) **Date of Patent:** **May 2, 2017**

(54) **MULTI-THREAD ILIAC SCREW**

(71) Applicants: **Octavio Cesar Silva**, Melbourne, FL (US); **Fernando Emilio Silva**, Fort Worth, TX (US)

(72) Inventors: **Octavio Cesar Silva**, Melbourne, FL (US); **Fernando Emilio Silva**, Fort Worth, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **14/499,180**

(22) Filed: **Sep. 28, 2014**

Related U.S. Application Data

(60) Provisional application No. 61/897,199, filed on Oct. 30, 2013.

(51) **Int. Cl.**
A61B 17/70 (2006.01)
A61B 17/86 (2006.01)

(52) **U.S. Cl.**
CPC **A61B 17/863** (2013.01); **A61B 17/7032** (2013.01); **A61B 2017/8655** (2013.01)

(58) **Field of Classification Search**
CPC A61B 17/7001; A61B 17/7032–17/7046
USPC 606/259, 260, 278
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

2006/0100622	A1 *	5/2006	Jackson	A61B 17/7037
					606/304
2008/0215095	A1 *	9/2008	Biedermann	A61B 17/7031
					606/246
2009/0024174	A1 *	1/2009	Stark	A61B 17/8625
					606/321
2010/0160971	A1 *	6/2010	Glerum	A61B 17/7037
					606/278

* cited by examiner

Primary Examiner — Nicholas Plionis

(57) **ABSTRACT**

The Multi-Thread Iliac Screw represents a novel way to embed fasteners in the ilium by improving fixation of said fasteners in the different parts of the iliac bone tissue. The screw consists of a saddle with a locking screw and fastener with three types of threads to provide a more mechanically stable embedding of the fastener in the iliac bone. The saddle receives a spinal stabilizing rod, which is part of another vertebral mechanical system, and, as such, the saddle provides an anchor point to the stabilizing rod. In another embodiment, the saddle is designed with an integrated rod on its side, which mates to another hollow rod integrated to a cube-shaped connector, thereby replacing the stabilizing rod. The connector provides the interface to the rest of the vertebral mechanical system.

7 Claims, 16 Drawing Sheets

